

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/531,147
Source: PUF
Date Processed by STIC: 2/9/06

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:50

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

3 <110> APPLICANT: THOMAS WU
5 <120> TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE DIAGNOSIS AND
6 TREATMENT OF TUMOR
8 <130> FILE REFERENCE: P5102R1-US
10 <140> CURRENT APPLICATION NUMBER: US 10/531,147
11 <141> CURRENT FILING DATE: 2005-04-12
13 <150> PRIOR APPLICATION NUMBER: PCT/US03/029126
14 <151> PRIOR FILING DATE: 2003-10-15
16 <150> PRIOR APPLICATION NUMBER: US 60/418,988
17 <151> PRIOR FILING DATE: 2002-10-18
19 <160> NUMBER OF SEQ ID NOS: 4622
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 2156
23 <212> TYPE: DNA
24 <213> ORGANISM: Homo sapiens
26 <400> SEQUENCE: 1
27 ctgcggcaaa gaaccgggct gtgtccaaag tgttctctgg aagttgtagt 50
29 tcctgtattg gtgaggcaag gaggaggcgg agtgactcgg cggccattag 100
31 ctgtgtgtag ttgcccgga ctaggagctt aagtgaagag gtacgccttg 150
33 ttcggtggaa atcagccgta gccatgagtt tctgccgggg ctagccctag 200
35 agtacggagc aggcggactt ttcggttccc cgcgccgcca ggtggcgggg 250
37 cctactaggc ctccgggcat ccccggtctc aagtaggcct catctgccgg 300
39 caagggcgcc cgaaacgcgg gaggcgccat gtcgctggtt gcttacgcca 350
41 gcagcgatga gagcgagccg gatgaggctg agcccgagcc ggaggaagag 400
43 gaggcggtgg ctccctacatc tgggcccgcct ttagggggct tgttcgcttc 450
45 tctccctgcg cccaagggtc cggccttgcct gcctccgccc cctcagatgc 500
47 tggcgccagc ctttcccccg ccgctgttgc tttccccacc caccggagac 550
49 cccaggcttc agcctcctcc ccccttgccc ttccggcctg gaggcttccc 600
51 cccacctcca ggcgtgagcc cggctgaagc ggcgggagtt ggggagggac 650
53 tgggattggg gttgcctcgc ccccgaggcc ctggcctcaa tctgccccct 700
55 ccaattggcg gtgccggtcc cccgctgggg ctccccaagc caaagaagag 750
57 gaaagagccc gtgaagatcg cggcgccgga gttgcataag ggagattcag 800
59 attctgagga agatgaacct acaaagaaga aaactatcct tcagggatcc 850
61 agtgagggga ctggtttgtc tgccttgctt ccccaacctc aaaacctgac 900
63 tgtgaaagag actaacaggc tgctcctgcc ccatgccttc tcccgcgaac 950
65 cctcgatagg ctccctgat actaagccct ccagactggc ttctaagacc 1000
67 aagacttccct ctcttgcccc tgttggtggc accacaacca cactccgctc 1050
69 gccctctgct atcaaggctg ctgccaagag tgcctgcctg cagggtgacaa 1100
71 agcagatcac gcaggaagaa gacgacagt atgaggaagt agcccccgaa 1150
73 aactttttct ccctccctga aaaggctgag ccacctggag ttgagccata 1200
75 cccttaccct atccccactg tccctgaaga gctgcctcca ggcacggaac 1250
77 cagagccggc tttccaggac gatgcagcca atgccccct tgaattcaag 1300
79 atggcagcag gttcaagtgg ggccttgg atgcctaagc ctggggacga 1350

for 6-7

RAW SEQUENCE LISTING

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:50

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

```

81 ctacagctac aatcagtttt ccacatatgg cgatgccaat gccgctggtg 1400
83 cttattatca ggattattac agtggtggct actatcctgc acaggaccgc 1450
85 gccctggtcc cccccagga aattgcccc gatgcctcct tcatcgatga 1500
87 cgaagcattt aagcggctgc agggcaagag gaaccgaggg agagaagaaa 1550
89 tcaactttgt ggagatcaaa ggtgatgacc agctcagtgg ggcccagcaa 1600
91 tggatgacta agtcattgac agaagagaaa accatgaagt cattcagcaa 1650
93 aaagaaaggt gaggagccaa caggccagca gcggcggaaa caccagatca 1700
95 catatcttat tcatcaggcc aaggagcggg agctggaact gaagaacacc 1750
97 tggtcagaga acaagctcag ccgccgtcag acccaagcca aatatggatt 1800
99 ctagggtctt ggaactgatt gctcccagga tctcctgcc gcccagctgg 1850
101 cctggccccc agcttcacct ctgggacccc agctgctcta agcccaggat 1900
103 ctctttcccc aaggaccag ccctcgcttc tgcgagaatg aacatatttg 1950
105 atagattttt cttaacaagt tagaaaattc agctcctttc tgtcctggag 2000
107 ctagcaaaga cttgtgtgat gcctccgaag gggctctgag ttctggggtg 2050
109 ggagttttgc tctctgtcag gtgtgataaa atgttgaacc ctccccacca 2100
111 ccactttttt ttttttaaac cagggatgtc tgttgaaata aaacattcag 2150
113 tctgac 2156
115 <210> SEQ ID NO: 2
116 <211> LENGTH: 2219
117 <212> TYPE: DNA
118 <213> ORGANISM: Homo sapiens
120 <400> SEQUENCE: 2
121 gaggaggagt ggggaccggg cggggggtgg aggaagaggc ctccgcgcaga 50
123 ggagggagca attgaatttc aaacacaaac aactgcacga gcgcgcaccc 100
125 accgcgccgg agccttgccc cgatccgcgc ccgccccgtc cgtgcggcgc 150
127 gcgggcggag acgcctgggc cgcgcgggag ctcgggccgg gggccaccat 200
129 cgaggcgggg gccgcgcgag ggcgggagcg gaggcggccc gccaccgccc 250
131 cacgcgcaaa cttgggctcg cgcttcccgg ccggcgcggg agcccggggc 300
133 gcccgagacc ccgccatgtc gcgatccaac cggcagaagg agtacaaatg 350
135 cggggacctg gtgttcgcca agatgaaggg ctaccacac tggccggccc 400
137 ggattgacga gatgcctgag gctgccgtga aatcaacagc caacaaatac 450
139 caagtctttt ttttcgggac ccacgagacg gcattcctgg gccccaaaga 500
141 cctcttccct tacgaggaat ccaaggagaa gtttggcaag cccaacaaga 550
143 ggaaagggtt cagcgagggg ctgtgggaga tcgagaacaa ccctactgtc 600
145 aaggcttccg gctatcagtc ctcccagaaa aagagctgtg tggagagacc 650
147 tgaaccagag ccggaagctg cagagggtga cggtgataag aaggggaatg 700
149 cagagggcag cagcgacgag gaagggaagc tggtcattga tgagccagcc 750
151 aaggagaaga acgagaaagg agcgttgaag aggagagcag gggacttgct 800
153 ggaggactct cctaaacgtc ccaaggaggc agaaaaccct gaaggagagg 850
155 agaaggaggc agccaccttg gagggtgaga ggccccttcc tatggagggtg 900
157 gaaaagaata gcacccctc tgagcccggc tctggccggg ggccctccca 950
159 agaggaagaa cagaggagg atgaagagga agaggctacc aagggaagatg 1000
161 ctgaggcccc aggcacgaga gatcatgaga gcctgtagcc accaatgttt 1050
163 caagaggagc cccaccctg ttccctgctgc tgtctgggtg ctactgggga 1100
165 aactggccat ggccctgcaa ctgggaaccc ctttcccacc ccaacctgct 1150
167 ctctctttct actactttt cccactccaa gcccagccca tggagattga 1200
169 cctggatggg gcaggccacc tggctctcac ctctaggtcc ccatactcct 1250
171 atgatctgag tcagagccat gtcttctccc tggaatgagt tgaggccact 1300
173 gtgttccttc cgcttgggag gggcaatcct caaatgcggg gtgggggagc 1350

```

RAW SEQUENCE LISTING

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:50

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

```

175 cacaggaggg cggcctcctt ctgagctcct gtcccctgct acacctatta 1400
177 tcccagctgc ctagattcag ggaaagtggg acagcttgta ggggaggggc 1450
179 tcctttccat aaatccttga tgattgacaa caccattttt tccttttgcc 1500
181 gacccaaga gttttgggag ttgtagttaa tcatcaagag aatttggggc 1550
183 ttccaagttg ttcgggccaa ggacctgaga cctgaagggt tgactttacc 1600
185 catttggttg ggagtgttga gcatctgtcc cccttttagat ctctgaagcc 1650
187 acaaatagga tgcttgggaa gactcctagc tgcctttttt cctctccaca 1700
189 cagtgtctca ggccagctta tagtcatata tatcaccag acataaagga 1750
191 aaagacacat tttttaggaa atgtttttta taaaagaaaa ttacaaaaaa 1800
193 aaatttttaa gaccctaacc cttttgtgtg ctctccattc tgctccttcc 1850
195 ccatcggtgc cccattttct gaggtgcact gggaggctcc ctttctattt 1900
197 ggggcttgat gactttcttt ttgtagctgg ggctttgatg ttccttccag 1950
199 tgtcatttct catccacata ccctgacctg gccccctcag tgttgccacc 2000
201 agatctgatt tgtaaccac tgagaggaca gagagaaata agtgccctct 2050
203 cccacctctt tctactgggt ctctctatgc ctctctacag tctcgtctct 2100
205 tttaccttgg cccctctccc ttgggctctg atgaaaaatt gctgactgta 2150
207 gctttggaag tttagctctg agaaccgtag atgatttcag ttctaggaaa 2200
209 ataaaaccgg ttgattact 2219

```

211 <210> SEQ ID NO: 3

212 <211> LENGTH: 867

213 <212> TYPE: DNA

214 <213> ORGANISM: Homo sapiens

216 <400> SEQUENCE: 3

```

217 gcgggggagg ggacgtgag ggcccatgtg ctgaaaatcc gaagtgccgc 50
219 ggaaagtgga gagctgacaa ggaaggtttc gagcggtttg ctggcaaagg 100
221 gatttcttac aacctccagg catgcgctct tctgccctgc tggccttggc 150
223 atccaaggtc actctgcccc cccattaccg ctatgggatg agccccccag 200
225 gctctgttgc agacaagagg aagaaccccc catggatcag gcggcgccca 250
227 gtggttgttg aacccatctc tgatgaagac tggatatctg tctgtgggga 300
229 cacggtggag atcctagaag gcaaggatgc cgggaagcag ggcaaagtgg 350
231 ttcaagttat ccggcagcga aactgggtgg tcgtgggagg gctgaacaca 400
233 cattaccgct acattggcaa gaccatggat taccggggaa ccatgatccc 450
235 tagtgaagcc cccttgctcc accgccagggt caaacttggt gatcctatgg 500
237 acaggaaacc cactgagatc gagtggagat ttactgaagc aggagagcgg 550
239 gtacgagtct ccacacgata agggagaatt atccctaaac ccgaatttcc 600
241 cagagctgat ggcacgtccc ctgaaacgtg gattgatggc cccaaagaca 650
243 catcagtgga agatgcttta gaaagaacct atgtgccctg tctaaagaca 700
245 ctgcaggagg aggtgatgga ggccatgggg atcaaggaga cccggaaata 750
247 caagaaggtc tattggtatt gagcctgggg cagagcagct cctccccaac 800
249 ttctgtccca gccttgaagg ctgaggcact tctttttcag atgccaataa 850
251 agagcacttt atgagtc 867

```

253 <210> SEQ ID NO: 4

254 <211> LENGTH: 2072

255 <212> TYPE: DNA

256 <213> ORGANISM: Homo sapiens

258 <400> SEQUENCE: 4

```

259 aaggcaggcg cgcgggttag aacgcgccag aggtcggcgc gcgcacaccc 50
261 gcaccgcccc gaccccagggt agtgaggcca gtgattccga gtgtgtgagg 100
263 agaggagtgt acggcaaggg gcgggaactg gaacttggcc cgcctcgttg 150

```

RAW SEQUENCE LISTING

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:50

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

```

265  tgagctgagc  tcagcggcac  gcttttgtgg  cgtcactgca  ctgttacc 200
267  gccctacgtg  tctctgacgc  tgacaccttc  tcaactgtgaa  acgtcgcgac 250
269  ctgtgacgtc  tggggggcgc  ctcaaattctt  ccactccagc  atcggatccc 300
271  ggaaaggcag  cgtcggagac  tggacccaaa  actcttcctg  ttctgcctgc 350
273  agagttgagc  cccgtccggg  tccctggaccc  gcgtagtact  gacctgggat 400
275  ccctgttcac  tgcgttctcg  ctccccgcgc  tccctgctgg  accccgggat 450
277  gccgggcac  tccgcccag  gcctctctca  tgaggggagg  aagcagctag 500
279  ctgttaacct  caccctgtgc  ctggcactct  accgttccat  cttggatgcc 550
281  tacatcatcg  aattttttcac  agacaacct  tgggacacac  tcccttgctc 600
283  atggcaggaa  gcattggatg  gactgaaacc  accacagctg  gccacaatgc 650
285  tgctggggat  gcctggggaa  ggggaggtcg  tcaggtacag  gtcagtgtgg 700
287  ccactcacc  tgctggccct  gaagtccacg  gcgtgtgccc  tggcctttac 750
289  ccggatgcct  ggctttcaga  cccctcaga  attcctggag  aaccctagcc 800
291  agagctccc  actaacagct  ccattccgga  aacatgtcag  gcccaagaag 850
293  cagcatgaga  tccggaggct  gggagagttg  gtgaagaagc  tgagtgattt 900
295  cacaggctgc  acccaggttg  tagacgtggg  ctccaggccag  ggccatctct 950
297  cccgcttcat  ggctcttggc  ctggggttga  tgggtgaagag  catcgaaggg 1000
299  gatcagagac  tgggtggagag  agcccagcgc  ctggaccagg  agcttctgca 1050
301  ggctctggag  aaagaggaga  agaggaacct  gcagggtgtc  caaaccagcc 1100
303  ctgctcactc  cccacaccac  gtggttaggt  gggtagacct  cacagccctg 1150
305  tgtgaggagc  ttctgtctcc  actggagaac  ccgtgtcagg  gcaggggccc 1200
307  cttgctgtc  acaggcctcc  acgctgtgg  ggatctgagt  gttgccttgc 1250
309  tgagacactt  ctctgctgt  cctgaggtgg  tggccctggc  ctccagtggg 1300
311  tgctgttaca  tgaagctgag  tgaccctggc  ggctacctac  tgagtcagt 1350
313  ggtggctggg  ctgctggct  atgaactgcc  ctaccggctt  cgggaggggg 1400
315  cctgccatgc  cctggaggaa  tatgtgagc  ggctacagaa  agctggccct 1450
317  ggcttctgaa  ctcaactgta  ccgtgcagca  ctggagacag  tcatccgacg 1500
319  ggcccgggcc  gagctccgtc  ggccaggcgt  gcagggtatc  cccagggtcc 1550
321  acgagctcaa  gattgaagaa  tatgtgcagc  gggggctaca  gcgagtgggg 1600
323  ctagatcccc  agctgccact  gaattctggc  gcccttcagg  cccacgtggc 1650
325  ccaggagAAC  cgtgtgggtg  cctcttcag  cctggctcta  ctgcttgccc 1700
327  cactgggtga  gacgcttatt  ctactggacc  ggctgctgta  ccttcaggaa 1750
329  cagggtttcc  atgctgagct  cctgcccatc  ttcagtcctg  aactctctcc 1800
331  cagaaacctg  gttctgggtg  ccaccaagat  gcccctgggt  caggctcttt 1850
333  ctgttctgga  gactgaagac  agctgatgca  gcctgaggaa  acatctcaga 1900
335  ccccatcatc  tgaaagtgcc  cagagagcac  agtggcagag  tacatctcat 1950
337  ccagagaaac  agcatcctgc  atcctccaga  gtccctggttc  cttcagtttc 2000
339  atcccccttc  tctccttcca  tggattatgt  aatacattgt  aaagttttta 2050
341  ttaattaaaa  attggatc  tg 2072
343 <210> SEQ ID NO: 5
344 <211> LENGTH: 2901
345 <212> TYPE: DNA
346 <213> ORGANISM: Homo sapiens
348 <400> SEQUENCE: 5
349  ctgggaggta  ggtttgtgag  cgtgagagat  cgatctgtac  cgcggggatc  50
351  cgaagtatgc  ttatccaggt  gggctgcctc  aagcctcgat  cccacccccg  100
353  cgctggtaga  tgggtgtcaag  gtccctgcgt  gggagaagga  cttgggtgag  150
355  atgcatgcgg  agattgcccc  caattccggc  ctggagccaa  gggaaaggga  200
357  tgcctggatt  tgtgtctcta  ttgggtgtcc  acgctgcgga  tgcctgggta  250

```

RAW SEQUENCE LISTING

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:50

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

```

359 gccagaggt tatctacgcc atactttctca ctgtttttga gcatacctag 300
361 atgttccttt cctaggcgga gtatagatcg cacgtgttct agcctcttag 350
363 actcagaggg ttcgagctct ataagccctt ccactccctt cattttacaa 400
365 atgagactca aacctagagc gcggtaatga ccttactaag accaaatggc 450
367 tggatgaatt ggcttacta gaatccaggc ttgctggcta acaccaatgc 500
369 tccctccatc atttcatgtt atgttttcat tccccctctg tctgagagat 550
371 tgctctgatg tctttccttc cataagtcct acggagatcg agcttacctc 600
373 atttttctcc caggcctagg agctcaatta ccaggatcac tttcttcccc 650
375 aggggtgtact acagacctcc acatgttgga cagtaggatt cagcagagaa 700
377 tgagtcccac atcctctttt catccataag ccactcttcc caactactct 750
379 tccgccttcc attgtcccta tgtctacttt actgtcfaat ctggattttg 800
381 gggaacctcc tcccaaaaag gcattagaag gaaatgccaa gcaccgaaat 850
383 tttgtcaaga agcggaggct cttagaacgg agaggcttct tgagtaaaaa 900
385 gaaccaaccc cctagcaagg cgcctaagtt gcactctgaa ccttcaaaga 950
387 aaggggaaac tcctacggtc gatggcactt ggaagacccc ttccttccca 1000
389 aaaaagaaga cagctgcttc cagcaatggg tcaggacagc ccctggacaa 1050
391 gaaagctgca gtgtcttggg tgacctctgc ccttcaaaa aaggtgatt 1100
393 ctgttgctgc taaagtagat ttgctggggg agttccagag tgcccttcca 1150
395 aagatcaata gccacccaac ccgctctcag aagaagagct cccagaagaa 1200
397 atcctctaaa aagaaccatc ctcaagaaga tgccccacag aactccaccc 1250
399 aagctcattc agagaataaa tgcctcggag catcccagaa gttgccacgg 1300
401 aagatgggtg caattgactg tgagatgggt ggcacaggac caaaggggca 1350
403 tgttagttcc ttggctcgat gtagcattgt caactacaac ggagatgtgc 1400
405 tttatgacga gtacattctt cccccctgcc acattgtgga ctaccgaacc 1450
407 aggtggagtg gtatccggaa gcagcacatg gtgaatgcca cacccttcaa 1500
409 gattgctcga ggccagatct tgaagatact cacaggggag atagtgggtg 1550
411 ggcattgccat ccacaacgac ttcaaagccc ttcagtactt tcccccaag 1600
413 tccctcaccg gtgacacctc ccataatccc cccctcaacc ggaaggctga 1650
415 ctgcccggag aatgccacca tgtctctgaa gcattctacc aagaagctgc 1700
417 taaaccggga tatccagggt gggaagagcg gacattcctc tgtggaagat 1750
419 gccaggcca ccatggagct atataagttg gttgaagtcg agtgggaaga 1800
421 gcacctagcc cggaatcccc ctacagacta gtggcagtggt ggacgctggt 1850
423 gatatgagga ggcagaggca gcacccagga gaaacagggc agtggacca 1900
425 tggacagctc caccagctcc acatcttttg aagctagatt tggggagaga 1950
427 gaagctctac ccagacttta ataccattg aaatttcacc tcagggtgtg 2000
429 tgtcctgtgt ctggttaagt gtcccatgga aggggaaagc cttcacgtca 2050
431 gaaccaaac ctataccttt tacttcttaa atggtgctaa ccacagggtg 2100
433 ccagggtgct tctgtgccag ttaagatttt taactttcaa ggggcagggc 2150
435 atactgggaa atgtagtttc ccaaactgcc ttatcacttg ggtggacata 2200
437 tgtctccttt tatgcctttt ggtcttgagt aattaacagc atcctcttcc 2250
439 acgctcagaa gtgttctggt tggggccagg catggtggct cacacctgta 2300
441 gtcccaacac ttagggaggc cgaggcgggc ggatcacctg agatcaggag 2350
443 ttcaagacca gcctggccaa catggcgaat tcccgctctc tactaaaaat 2400
445 acaaaaaatg tgtggggtgt ggtggcagga gcctgtaatc ctagctactc 2450
447 aggaggctga ggcaggagaa tcgcttgagc ccaggaggcg gagattgcag 2500
449 tgagccgaga tcgtgtcact gcactccagc ctgggtgaca agagtgcag 2550
451 tccgtctcca aaaaaaaaaa aaaagaattt attaacctgg ttggttaata 2600
453 aattgtgtgg tcctgcccgg gcgtgggtgg tcacgcctgt aatcccagca 2650
455 ctttgggagg ccgagacggg cagatcacga ggtcaggaga tcgagaccat 2700

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/531,147

DATE: 02/09/2006
TIME: 16:15:51

Input Set : N:\AMC\Sequence Listing P5102R1.txt
Output Set: N:\CRF4\02092006\J531147.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:95; N Pos. 254
Seq#:119; N Pos. 2568,2569,2572,2576,2579,2580,2583
Seq#:137; N Pos. 2491
Seq#:208; N Pos. 1225
Seq#:209; N Pos. 52
Seq#:210; N Pos. 1970,1973,1974
Seq#:211; N Pos. 387,422,502
Seq#:215; N Pos. 477
Seq#:217; N Pos. 35
Seq#:465; N Pos. 1350
Seq#:784; N Pos. 142
Seq#:789; N Pos. 706,717
Seq#:791; N Pos. 280
Seq#:800; N Pos. 97
Seq#:810; N Pos. 1225
Seq#:811; N Pos. 52
Seq#:812; N Pos. 1970,1973,1974
Seq#:813; N Pos. 387,422,502
Seq#:817; N Pos. 35
Seq#:921; N Pos. 2048
Seq#:1274; N Pos. 2568,2569,2572,2576,2579,2580,2583
Seq#:1285; N Pos. 2491
Seq#:1371; N Pos. 16,24,27,31,58,79,161,305,450,520,561,882,990,991,992,997
Seq#:1371; N Pos. 999,1001,1002,1003,1006,1214,1254,1307,1446,1626,1701
Seq#:1382; N Pos. 85,88,90,130,132,135
Seq#:1456; N Pos. 118
Seq#:1458; N Pos. 2119
Seq#:1466; N Pos. 186
Seq#:1721; N Pos. 176
Seq#:1727; N Pos. 543,544,545,546,547,548,549,550,551,552,553,554,555,556
Seq#:1727; N Pos. 557,558,559,560,561,562,563,564,565,566,567,568,569,570
Seq#:1727; N Pos. 571,572,573,574,575,576,577,578,579,580,581,582,583,584
Seq#:1727; N Pos. 585,586,587,588,589,590,591,592,593,594,595,596,597,598
Seq#:1727; N Pos. 599,600,601,602,603,604,605,606,607,608,609,610,611,612
Seq#:1727; N Pos. 613,614,615,616,617,618,619,620,621,622,623,624,625,626
Seq#:1727; N Pos. 627,628,629,630,631,632,633,634,635,636,637,638,639,640
Seq#:1727; N Pos. 641,642
Seq#:2011; N Pos. 2728,2730
Seq#:2013; N Pos. 2179,2181
Seq#:2048; N Pos. 254
Seq#:2069; N Pos. 2568,2569,2572,2576,2579,2580,2583
Seq#:2085; N Pos. 2491
Seq#:2303; N Pos. 94
Seq#:2315; N Pos. 1378,1380,1381

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/531,147

DATE: 02/09/2006
TIME: 16:15:51

Input Set : N:\AMC\Sequence Listing P5102R1.txt
Output Set: N:\CRF4\02092006\J531147.raw

Seq#:2323; N Pos. 221,224,389,391,393,1309,1311,1638,1640,1643,1645,1647
Seq#:2323; N Pos. 1812
Seq#:2324; N Pos. 1738,4411,4426,4442,4443,4481,4528,4538,5083,5084
Seq#:2327; N Pos. 385,542,558,560,567,688,840
Seq#:2328; N Pos. 192,249,688,864,889,1297
Seq#:2343; N Pos. 428
Seq#:2675; N Pos. 1350
Seq#:3070; N Pos. 3745
Seq#:3229; N Pos. 2728,2730
Seq#:3230; N Pos. 2179,2181
Seq#:3254; N Pos. 254
Seq#:3274; N Pos. 2568,2569,2572,2576,2579,2580,2583
Seq#:3288; N Pos. 2491
Seq#:3329; N Pos. 1504,1510,1515,1530
Seq#:3438; N Pos. 1225
Seq#:3439; N Pos. 1970,1973,1974
Seq#:3440; N Pos. 387,422,502
Seq#:3445; N Pos. 35
Seq#:3458; N Pos. 2954
Seq#:3486; N Pos. 118
Seq#:3488; N Pos. 2119
Seq#:3492; N Pos. 94
Seq#:3500; N Pos. 1378,1380,1381
Seq#:3508; N Pos. 221,224,389,391,393,1309,1311,1638,1640,1643,1645,1647
Seq#:3508; N Pos. 1812
Seq#:3509; N Pos. 1738,4411,4426,4442,4443,4481,4528,4538,5083,5084
Seq#:3510; N Pos. 2278,2288,2290,2314,2324,2339,2348,2363,4126
Seq#:3512; N Pos. 385,542,558,560,567,688,840
Seq#:3513; N Pos. 192,249,688,864,889,1297
Seq#:3846; N Pos. 1350
Seq#:4068; N Pos. 543,544,545,546,547,548,549,550,551,552,553,554,555,556
Seq#:4068; N Pos. 557,558,559,560,561,562,563,564,565,566,567,568,569,570
Seq#:4068; N Pos. 571,572,573,574,575,576,577,578,579,580,581,582,583,584
Seq#:4068; N Pos. 585,586,587,588,589,590,591,592,593,594,595,596,597,598
Seq#:4068; N Pos. 599,600,601,602,603,604,605,606,607,608,609,610,611,612
Seq#:4068; N Pos. 613,614,615,616,617,618,619,620,621,622,623,624,625,626
Seq#:4068; N Pos. 627,628,629,630,631,632,633,634,635,636,637,638,639,640
Seq#:4068; N Pos. 641,642
Seq#:4204; N Pos. 1640,1651,1653,1659,1662,1665,1667,1670
Seq#:4205; N Pos. 517,518
Seq#:4226; N Pos. 3745

VERIFICATION SUMMARY

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:51

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set : N:\CRF4\02092006\J531147.raw

L:8828 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:95 after pos.:250
L:11333 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:119 after pos.:2550
L:12652 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:137 after pos.:2450
L:19485 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:208 after pos.:1200
L:19504 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:209 after pos.:50
L:19609 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:210 after pos.:1950
L:19642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:211 after pos.:350
L:19644 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:211 after pos.:400
L:19648 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:211 after pos.:500
L:20127 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:215 after pos.:450
L:20270 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217 after pos.:0
L:43643 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:465 after pos.:1300
L:73208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:784 after pos.:100
L:73689 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:789 after pos.:700
L:73892 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:791 after pos.:250
L:75003 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:800 after pos.:50
L:75912 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:810 after pos.:1200
L:75931 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:811 after pos.:50
L:76036 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:812 after pos.:1950
L:76069 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:813 after pos.:350
L:76071 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:813 after pos.:400
L:76075 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:813 after pos.:500
L:76514 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:817 after pos.:0
L:86007 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:921 after pos.:2000
L:120748 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1274 after pos.:2550
L:121607 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1285 after pos.:2450
L:130341 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:0
L:130343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:50
L:130347 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:150
L:130353 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:300
L:130357 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:400
L:130361 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:500
L:130363 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:550
L:130375 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:850
L:130379 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:950
L:130381 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1000
L:130389 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1200
L:130391 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1250
L:130393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1300
L:130397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1400
L:130405 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1600
L:130409 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1371 after pos.:1700
L:131462 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1382 after pos.:50
L:131464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1382 after pos.:100
L:137943 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1456 after pos.:100
L:138152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1458 after pos.:2100
L:138555 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1466 after pos.:150
L:163474 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1721 after pos.:150

VERIFICATION SUMMARY

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:51

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

L:164071 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1727 after pos.:500
L:164073 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1727 after pos.:550
L:164075 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1727 after pos.:600
L:191664 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2011 after pos.:2700
L:191877 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2013 after pos.:2150
L:194996 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2048 after pos.:250
L:197045 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2069 after pos.:2550
L:198216 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2085 after pos.:2450
L:219115 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2303 after pos.:50
L:220660 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2315 after pos.:1350
L:221566 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2323 after pos.:200
L:221572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2323 after pos.:350
L:221610 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2323 after pos.:1300
L:221622 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2323 after pos.:1600
L:221630 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2323 after pos.:1800
L:221723 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2324 after pos.:1700
L:221831 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2324 after pos.:4400
L:221833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2324 after pos.:4450
L:221835 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2324 after pos.:4500
L:221857 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2324 after pos.:5050
L:222046 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2327 after pos.:350
L:222052 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2327 after pos.:500
L:222054 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2327 after pos.:550
L:222058 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2327 after pos.:650
L:222064 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2327 after pos.:800
L:222085 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2328 after pos.:150
L:222087 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2328 after pos.:200
L:222105 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2328 after pos.:650
L:222113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2328 after pos.:850
L:222129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2328 after pos.:1250
L:223690 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2343 after pos.:400
L:253577 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2675 after pos.:1300
L:292024 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3070 after pos.:3700
L:308779 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3229 after pos.:2700
L:308926 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3230 after pos.:2150
L:310883 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3254 after pos.:250
L:312820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3274 after pos.:2550
L:313837 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3288 after pos.:2450
L:318290 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3329 after pos.:1500
L:330133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3438 after pos.:1200
L:330228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3439 after pos.:1950
L:330261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3440 after pos.:350
L:330263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3440 after pos.:400
L:330267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3440 after pos.:500
L:330846 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3445 after pos.:0
L:331955 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3458 after pos.:2950
L:334866 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3486 after pos.:100
L:335075 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3488 after pos.:2100
L:335562 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3492 after pos.:50

VERIFICATION SUMMARY

DATE: 02/09/2006

PATENT APPLICATION: US/10/531,147

TIME: 16:15:51

Input Set : N:\AMC\Sequence Listing P5102R1.txt

Output Set: N:\CRF4\02092006\J531147.raw

L:336469 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3500 after pos.:1350
L:337375 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3508 after pos.:200
L:337381 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3508 after pos.:350
L:337419 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3508 after pos.:1300
L:337431 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3508 after pos.:1600
L:337439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3508 after pos.:1800
L:337532 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3509 after pos.:1700
L:337640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3509 after pos.:4400
L:337642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3509 after pos.:4450
L:337644 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3509 after pos.:4500
L:337666 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3509 after pos.:5050
L:337797 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3510 after pos.:2250
L:337799 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3510 after pos.:2300
L:337801 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3510 after pos.:2350
L:337871 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3510 after pos.:4100
L:338020 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3512 after pos.:350
L:338026 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3512 after pos.:500
L:338028 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3512 after pos.:550
L:338032 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3512 after pos.:650
L:338038 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3512 after pos.:800
L:338059 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3513 after pos.:150
L:338061 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3513 after pos.:200
L:338079 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3513 after pos.:650
L:338087 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3513 after pos.:850
L:338103 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3513 after pos.:1250
L:369548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3846 after pos.:1300
L:390181 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4068 after pos.:500
L:390183 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4068 after pos.:550
L:390185 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4068 after pos.:600
L:405542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4204 after pos.:1600
L:405544 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4204 after pos.:1650
L:405599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4205 after pos.:500
L:407392 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4226 after pos.:3700